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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,837	10/17/2000	Shusuke Yamamoto	001358	1853

7590 06/10/2003

ARMSTRONG, WESTERMAN, HATTORI  
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Washington, DC 20006

EXAMINER

FERGUSON, MICHAEL P

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/688,837

Applicant(s)

YAMAMOTO ET AL.

Examiner

Michael P. Ferguson

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 6-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (USPN 5,520,269) in view of Uramoto et al. (USPN 4,642,011) and Hufnagel et al. (USPN 4,221,041).

As to claim 6, Yamamoto et al. discloses a pin connection structure for use in a floating type brake disc assembly having:

a hub **2**;

an annular disc **1** which is concentrically disposed around the hub with a clearance therebetween;

the hub and the disc having plural sets of semicircular connecting dents **6, 7** opening toward the clearance to thereby form respective inserting holes; and

a hollow pin **20** inserted into each of the inserting holes with a washer **21** fitted on an end portion **20d** of the hollow pin which is subsequently caulked radially outward for fixing the washer in position (Figures 8(a) and 8(b)).

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Yamamoto et al. fails to disclose a pin connection structure wherein a hollow pin made of metal having a surface-treated layer, and wherein the hollow pin is formed in advance into a convex shape in part of an inner periphery of an end portion of the hollow pin.

Uramoto et al. teaches a fastener made of metal having a surface-treated layer for preventing rust and corrosion of the fastener (column 1 line 62- column 2 line 23, column 5 lines 25- 61; column 6 lines 54- 68; and Table 7).

Hufnagl et al. teaches a hollow pin **10** formed in advance into a convex shape **20** in part of an inner periphery of an end portion of the hollow pin; the convex shape providing for firmly joining two members without the main shank **14** of the pin expanding during the riveting process, such expansion causing structural failure in the joined members (Figure 1, column 1 lines 33-35, 48-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin connection as disclosed by Yamamoto et al. to have a hollow pin made of metal having a surface-treated layer as taught by Uramoto et al. to prevent rusting and corrosion of the hollow pin; and to be formed in advance into a convex shape in part of an inner periphery of an end portion of the hollow pin as taught by Hufnagl et al. to provide for firmly joining two members without the main shank of the hollow pin expanding during the riveting process, such expansion causing deformation and possible structural failure of the hub and disk material, and cracking in the surface-treated layer.

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As to claim 7, Uramoto et al. teaches a fastener made of aluminum alloy metal (column 1 line 62- column 2 line 23, column 5 lines 25- 61; column 6 lines 54- 68; and Table 7).

As to claim 8, Uramoto et al. teaches a fastener made of ferrous material (column 1 line 62- column 2 line 23, column 5 lines 25- 61; column 6 lines 54- 68; and Table 7).

As to claim 9, Uramoto et al. teaches a fastener having a surface-treated layer being an oxide corrosion-resistant film (column 1 line 62- column 2 line 23, column 5 lines 25- 61; column 6 lines 54- 68; and Table 7).

As to claim 10, Uramoto et al. teaches a fastener having a surface-treated layer being chromium plating and nickel plating (column 1 line 62- column 2 line 23, column 5 lines 25- 61; column 6 lines 54- 68; and Table 7).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703)308-8591. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (703)308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are

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(703)872-9326 for regular communications and (703)872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1114.

MPF

June 5, 2003



**Lynne H. Browne**  
**Supervisory Patent Examiner**  
**Group Art Unit 3679**